the semiconductor light emitting element **14**, it is always ensured that the solder foil, semiconductor light emitting element **14**, first heat sink **11** and second heat sink **12** are brought into contact with each other before pressure is applied for example from the top of the first heat sink **11** and the solder material **15, 15a, 15b, 15c, and 15d** is heated to melt. This readily cancels the dimensional errors among the individual components and the element, which results in proper contact between the semiconductor light emitting element **14**, first heat sink **11** and second heat sink **12**.

a' concld

Please replace the paragraphs beginning at page 28, line 16, continuing to page 29, with the following rewritten paragraphs:

a2

As shown in Fig. 1, there is provided a space in the vicinity of the junction of the first heat sink **11** and the second heat sink **12**, into which excess solder material **15b** can preferably flow to thereby prevent such adhesive from reaching the semiconductor light emitting element **14**. More specifically, it is preferable to provide this space with no passage to the semiconductor light emitting element **14**, so that excess solder **15b** will flow into this space and there remain.

As described in the above, the thickness of the semiconductor light emitting element and thickness of the heat sink intrinsically are prone to dimensional errors, so that the mounting as illustrated in Fig. 1, in which the semiconductor light emitting element **14**, first heat sink **11** and second heat sink **12** are kept in parallel with each other, needs some mechanism by which differences of the thickness among the relevant components can be compensated for, and such relevant components can be integrated. For such purpose, it is beneficial that the thickness of the solder

material **15b** is intentionally selected to be thick enough to absorb dimensional errors in the individual components, and that a certain space is provided in order to accumulate the excess, solder at a remove from the semiconductor light emitting element **14** so as to keep it contacting with the element. In the embodiment shown in Fig. 1, the solder foil is initially mounted on portion **A**, which is a part of the second heat sink, and is then melted under heating for the joining of the first heat sink **11**, second heat sink **12** and semiconductor light emitting element **14**, where a part of the solder foil flows into portion **B** of the second head sink **12**. Such space for accommodating the solder **15b** may be recesses in the second heat sink **12**, or may be recesses in the first heat sink **11**, or may be recesses in both. While there is no limitation on the shape of the recesses, the shape is preferably such that it allows smooth flow of the solder therein and prevents reverse flow. Providing the recesses at least on a part of the second heat sink **12** is particularly preferable.

While such structural approach of providing for the solder pool is of course effective in preventing contact of the solder with the semiconductor light emitting element **14**, it is also allowable to intentionally provide on a part of the heat sink a portion capable of reducing wetting (affinity) of the solder to thereby prevent the solder **15b** for joining the first and second heat sinks **11,12** from flowing into the portion where the semiconductor light emitting element **14** is to be mounted.

Please replace the paragraphs beginning at page 29, line 34, continuing to page 30, with the following rewritten paragraphs:

B3

The wetting (affinity) improving layer is located so as to enhance the flow of the excessive solder into the space for accommodating the solder. In particular, it is preferable to locate such layer so that the solder material **15b** will surely flow into the space while preventing flow towards the semiconductor light emitting element **14**. Specific embodiments thereof can be exemplified as those shown in Figs. 5A to 5D, other than that shown in Fig. 1. In a structure shown in Fig. 5A, the wetting affinity improving layer is placed on a slope so that the excessive solder material **15b** can flow down leftward in the figure. In such case, the wetting (affinity) improving layer is definitely not provided in the vicinity of the top end portion of the slope, which is close to the semiconductor light emitting element **14**, so that the solder material **15b** will not flow towards the semiconductor light emitting element **14**. Also in structures shown in Figs. 5B to 5C, the device is composed so that the excessive solder material **15b** accumulates in a portion where the wetting (affinity) improving layer is formed, or flow over such portion to drop in the solder pool. Such structure may be provided in a plural number per heat sink. In such case, the individual structures may differ from each other.

In the present invention, it is preferable that at least a part of the electrode for the first-conduction-type semiconductor is in contact with the first heat sink as being interposed with a first adhesive **15a** (preferably solder material); at least a part of the first heat sink is in contact with the second heat sink interposed with a second adhesive **15b** (preferably solder material); and the total

weight of the second adhesive **15b** is twice or more, and more preferably five times or more, heavier than the total weight of the first adhesive **15a**. Providing such difference in the weight of the adhesives is advantageous in that facilitating the adjustment of the semiconductor light emitting element, first heat sink and second heat sink, which should be set in parallel with each other, during the assembly.

C3 concld

Please replace the paragraphs beginning at page 34, line 31, continuing to page 35, with the following rewritten paragraphs:

C4

An AlN sub-mount, having no electro-conductivity in the direction of thickness, was procured as the second heat sink **12**. The second heat sink **12** is preliminarily evaporated with a Ti/Pt/Au layer **16** on a wetting (affinity) improving layer **19**, laser mounting surface and surfaces parallel thereto in order to ensure only the conductivity within the surface, where only the laser mounting portion was further evaporated with an AuSn solder **15c** so as to be stacked on the Ti/Pt/Au layer **16**. On the other hand, an AlN sub-mount, which is entirely covered with a Ti/Pt/Au layer **16** so as to ensure the electro-conductivity in the direction of thickness, was prepared as the first heat sink **11**, where over the entire laser mounting portion an AuSn solder layer **15a** was further formed by evaporation on the Ti/Pt/Au layer **16**.

First, the semiconductor light emitting element **14** was mounted on the second heat sink **12** under the normal temperature so as to allow the n-side electrode thereof to contact with the second heat sink **12** while aligning the edge of the second heat sink **12** and the front facet of the element **14**;

an AuSn solder layer of 85 μm thick is then placed on the wetting (affinity) improving layer **19**; the first heat sink **11** is positioned so that the edge thereof is recessed by 25 μm to the rear of the facet of the semiconductor laser element **14** as shown in Fig. 2; mounted to be in contact with the AuSn solder layer 85 μm thick and with a part of the p-side electrode; the temperature was raised to 290 under 30 g load, to thereby join the first heat sink **11**, second heat sink **12** and semiconductor laser element **14** to complete a COS, the semiconductor light emitting device. In such process, excess AuSn solder was found to flow from the portions contacting the first heat sink **11** and second heat sink **12** into the area removed from both. A stem containing CuW for current injection was then prepared as a third heat sink **13**, and the COS was then joined therewith again using the AuSn solder **15d** so as to allow the bottom plane of the second heat sink **12** to contact with such third heat sink **13**. Thereafter, the portion of the first heat sink **11** covered with the Ti/Pt/Au layer **16** was bonded with three gold wires **17** of 25 μm diameter by ultrasonic fusion process to thereby produce the p-side electrode, and the second heat sink **12** covered with the Ti/Pt/Au layer **16** was also bonded with three gold wires **18** of 25 μm diameter by ultrasonic fusion process to thereby produce the n-side electrode to allow current injection. The entire structure was sealed in a nitrogen atmosphere to be completed as a can package.